

YERKHOV, M.I. (Moskva)

Bearing capacity of overhead thin-walled pipelines. Stroi. mekh.  
1 rasch. soor. 2 no.6;19-23 '60. (MIRA 13:12)  
(Pipelines)

00528

S/179/60/000/006/026/036  
E081/E135

10.9200

AUTHOR: Yerkhov, M.I., (Moscow)

TITLE: Plastic State of Shells, Plates and Bars of an  
Ideally Plastic Material

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh  
nauk, Mekhanika i mashinostroyeniye, 1960, No. 6,  
pp. 151-154

TEXT: The paper is a continuation of previous work (Ref.2).  
An approximate relation is derived between internal forces and  
deformations in the middle surface of an ideally plastic shell.  
This leads to relations between forces and moments in the plastic  
phase which are convenient for calculation. The results are  
extended to ideally plastic plates and bars; in addition the  
approximate plasticity conditions of one half of the section are  
used as a criterion for the bearing capacity of the construction.  
The results are also extended to structures with two-layered  
constructional anisotropic section. The Kirchhof—Love  
postulates are adopted, and the notation is the same as that of  
A.A. Il'yushin (Ref.1), unless otherwise stated. The material is  
Card 1/8

88528

S/179/60/000/006/026/036

E081/E135

# Plastic State of Shells, Plates and Bars of an Ideally Plastic Material

assumed ideally plastic and incompressible. The quantities  $\epsilon_i$ ,  $z'$ ,  $z''$  are defined in Fig.1; quantities with a single prime and a double prime refer respectively to the external and internal halves of the shell; the thickness of the shell is  $2h$ . The internal forces are given by:

$$\begin{aligned} T_k &= \frac{4}{3} \left( \epsilon_k + \frac{1}{2} \epsilon_l \right) \left( \frac{1}{\epsilon_l'} + \frac{1}{\epsilon_l''} \right) \sigma_p h + \frac{4}{3} \left( \kappa_k + \frac{1}{2} \kappa_l \right) \left( \frac{z_1'}{\epsilon_l'} - \frac{z_1''}{\epsilon_l''} \right) \sigma_p h \\ M_k &= \frac{2}{3} \left( \epsilon_k + \frac{1}{2} \epsilon_l \right) \left( \frac{1}{\epsilon_l'} - \frac{1}{\epsilon_l''} \right) \sigma_p h^3 + \frac{2}{3} \left( \kappa_k + \frac{1}{2} \kappa_l \right) \left( \frac{z_1'}{\epsilon_l'} + \frac{z_1''}{\epsilon_l''} \right) \sigma_p h^3 \quad (2.1) \\ T_{12} &= \frac{2}{3} \epsilon_{12} \left( \frac{1}{\epsilon_1'} + \frac{1}{\epsilon_1''} \right) \sigma_p h + \frac{2}{3} \kappa_{12} \left( \frac{z_1'}{\epsilon_1'} - \frac{z_1''}{\epsilon_1''} \right) \sigma_p h \\ M_{12} &= \frac{1}{3} \epsilon_{12} \left( \frac{1}{\epsilon_1'} - \frac{1}{\epsilon_1''} \right) \sigma_p h^3 + \frac{1}{3} \kappa_{12} \left( \frac{z_1'}{\epsilon_1'} + \frac{z_1''}{\epsilon_1''} \right) \sigma_p h^3 \quad (k=1, 2, \quad l=2, 1) \end{aligned}$$

Card 2/8

88528

S/179/60/000/006/026/036  
E081/E135

Plastic State of Shells, Plates and Bars of an Ideally Plastic Material

Denoting the stress components by  $\sigma_1, \sigma_2, \tau_{12}$ , Eq.(2.1) can be written in the form:

$$T_k = (\sigma_k' + \sigma_k'')h; \quad T_{12} = (\tau_{12}' + \tau_{12}'')h$$

$$(k = 1, 2) \quad (2.2)$$

$$M_k = (\sigma_k' - \sigma_k'')0.5 h^2, \quad M_{12} = (\tau_{12}' - \tau_{12}'')0.5 h^2$$

or, introducing for the influence coefficients of the forces and moments the notation:

$$t_k'(\gamma) = \frac{4}{3} \frac{(e_k + 0.5e_l)}{e_l'(\gamma)}, \quad t_{12}'(\gamma) = \frac{2}{3} \frac{e_{12}}{e_l'(\gamma)}$$

$$m_k'(\gamma) = \frac{4}{3} \frac{(x_k + 0.5x_l)}{e_l'(\gamma)} z_l'(\gamma), \quad m_{12}'(\gamma) = \frac{2}{3} \frac{x_{12} z_l'(\gamma)}{e_l'(\gamma)}$$

$$(k = 1, 2, \quad l = 2, 1)$$

(2.3)

Card 3/8

88528

S/179/60/000/006/026/036

E081/E135

# Plastic State of Shells, Plates and Bars of an Ideally Plastic Material

the stresses can be expressed by:

$$\begin{aligned} \sigma_k' &= (t_k' + m_k') \sigma_s, & \tau_{12}' &= (t_{12}' + m_{12}') \sigma_s, \\ \sigma_k'' &= (t_k'' - m_k'') \sigma_s, & \tau_{12}'' &= (t_{12}'' - m_{12}'') \sigma_s, \end{aligned} \quad (2.4)$$

$k = 1, 2$

Finally, the notation

$$\begin{aligned} \frac{T_k}{2\sigma_s h} &= t_k = \frac{1}{2} (t_k' + t_k'') + \frac{1}{2} (m_k' - m_k'') \\ \frac{T_{12}}{2\sigma_s h} &= t_{12} = \frac{1}{2} (t_{12}' + t_{12}'') + \frac{1}{2} (m_{12}' - m_{12}'') \\ \frac{M_k}{\sigma_s h^3} &= m_k = \frac{1}{2} (t_k' - t_k'') + \frac{1}{2} (m_k' + m_k'') \\ \frac{M_{12}}{\sigma_s h^3} &= m_{12} = \frac{1}{2} (t_{12}' - t_{12}'') + \frac{1}{2} (m_{12}' + m_{12}'') \end{aligned} \quad (2.5)$$

$(k = 1, 2)$

Card 4/ 8

85528

S/179/60/000/006/026/036  
E081/E135

Plastic State of Shells, Plates and Bars of an Ideally Plastic Material

leads to

$$\sigma_k' = (t_k + m_k) \sigma_s, \quad \tau_{12}' = (t_{12} + m_{12}) \sigma_s$$

$$(k = 1, 2) \quad (2.6)$$

$$\sigma_k'' = (t_k - m_k) \sigma_s, \quad \tau_{12}'' = (t_{12} - m_{12}) \sigma_s.$$

The conditions of constancy of  $e_1$  within the limits of each half of the section mean that physically the continuous section can be replaced by a two-layered section with zero shear stress between the layers. For the so-called "ideal section" (Fig.2) all the preceding results are accurate; for the two-layered construction-ally anisotropic section they possess negligible errors. X  
Introducing the Mises plasticity conditions leads to:

$$Q_t \pm 2 Q_{tm} + Q_m = 1 \quad (3.1)$$

in which  $Q_t$ ,  $Q_m$  and  $Q_{tm}$  are the quadratic and bilinear forms of  $t$  and  $m$  (Ref.1). The pair of planes (3.1) is appreciably  
Card 5/8

88528

S/179/60/000/006/026/036  
E081/E135

Plastic State of Shells, Plates and Bars of an Ideally Plastic Material

deflected for large values of  $Q_{tm}$  from the accurate surface described by A.A. Il'yushin (Ref.1), or from the pair of planes which approximate to it (Fig.3):

$$Q_t + Q_m \pm \frac{1}{\sqrt{3}} Q_{tm} = 1$$

For the problem with known disposition of principal deformation axes, Eq.(2.6) and the Tresca Saint-Venant plasticity conditions yield:

$$(t_1 \pm m_1) - (t_2 \pm m_2) \leq 1, \quad |(t_1 \pm m_1)| \leq 1,$$

$$|(t_2 \pm m_2)| \leq 1 \quad (3.3)$$

The specification of the flow surfaces is discussed, using:

$$Q_t \pm 2 Q_{tm} + Q_m = k, \quad 1 \leq k \leq \frac{(7 + 4\sqrt{3})}{9} \quad (4.1)$$

and

Card 6/8

88528

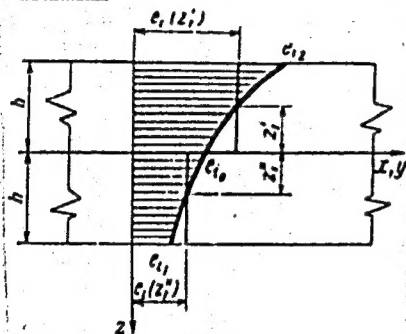
S/179/60/000/006/026/036  
E081/E135

Plastic State of Shells; Plates and Bars of an Ideally Plastic Material

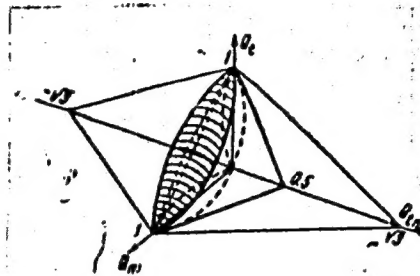
$$Q_t + |Q_m| = 1 \quad (4.2)$$

as examples and the accuracy of these equations is illustrated by Figs 4 and 5.

There are 5 figures and 5 Soviet references.



Card 7/8 Fig.1



Q\_m, 3

Fig.3



88528

S/179/60/000/006/026/036  
E081/E135

Plastic State of Shells; Plates and Bars of an Ideally Plastic Material

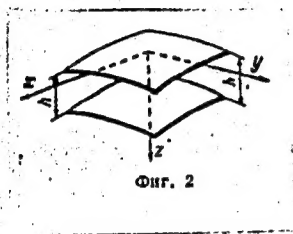


Fig.2

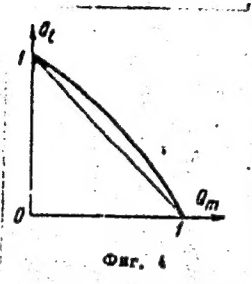


Fig.4

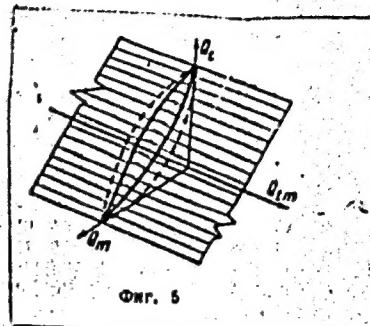


Fig.5

SUBMITTED: February 8, 1960

Card 8/8

YERKHOV, M. I.

Cand Tech Sci- (diss) "Finite equilibrium of ideally plastic spheres, plates, and rods under conditions of calculated model cross-section." Moscow, 1961. 14 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor Red Banner Construction Engineering Inst imeni V. V. Kuybyshev); 180 copies; price not given; (KL, 6-61 sup, 217)

S/124/62/000/002/011/014  
D234/D302

24.4200  
AUTHOR:

Yerkhov, M.I.

TITLE:

Symmetrical deformation of a cylindrical shell beyond the limit of elasticity

PERIODICAL:

Referativnyy zhurnal, Mekhanika, no. 2, 1962, 27, abstract  
2V242 (Tr. Tsentr.n.-i. in-ta stroit. konstrukt. Akad.  
str-va i arkhitekt. SSSR, no. 4, 1961, 176-198)

TEXT: It is assumed that in plastic yield of the shell the external and internal layers, divided by the middle surface, are uniformly stressed. This assumption, combined with the yield condition of Tresca, leads to a piecewise linear finite relation Eq. (\*)

$$\max \left\{ \left| \frac{(t_1 \pm m_1) - (t_2 \pm m_2)}{t_1 \pm m_1} \right|, \left| \frac{t_2 \pm m_2}{t_1 \pm m_1} \right| \right\} = 1$$

where  $t_1$  and  $m_1$  are dimensionless internal forces and moments. On the basis of the relation (\*) the author studies the limit state of a cylindrical shell under the action of a uniformly distributed load, a

Card 1/2

Symmetrical deformation of a ...

S/124/62/000/002/011/014  
D234/D302

concentrated ring pressure, axial force and edge loading. [Abstracter's  
note: Complete translation].

✓B

Card 2/2

CHICHASOV, V.Ya., kand. tekhn. nauk; YERKHOV, N.S., inzh.

Absorption of water by the soil during continuous sprinkling.  
Gidr. i mel. 17 no.7:8-15 JI '65. (MIRA 18:12)

YUSOV, B.V., inzh.; YERKHOV, V.V., inzh.

Vertically closed conveyer. Mekh.i avtom.proizv. 15 no.6:48-49  
Je '61. (MIRA 14:6)

(Conveying machinery)

YERKHOVA, V.

36453. YERKHOVA, V. KOVARSKIY, M., TSITOVSKAYA, S., KOROLEVICH, M.  
Kariyes I Beremennost'. - Avt: M. Kovarskiy, S. Tsitovskaya, M. Korolevich I V.  
Yerkhova. Stomatologiya, 1949, No. 4, S. 25-28.

SO: Letonis' Zhurnal'nykh Statey, Vol. 49, Moskva 1949

YAKUBOVSKIY, A.M., mashinist-instruktor; PROLENKO, M.P., mashinist-instruktor;  
YAROSHEVICH, V.S., mashinist; YERKIMRAYEV, Ye., mashinist;  
BARANAZAROV, A.M., mashinist; FEDOSOV, D. Ye.; SKORKIN, I.S.

Useful book "Reference book for a diesel locomotive engineering by  
V.M.Terekhov, I.I.Murshin. Reviewed by A.M.Iakubovskii and others.  
Elek.i tepl.tiaga 4 no.2:47-48 F '60. (MIRA 13:6)

1. Master zagotovitel'nogo tsekha, depo Chu, Kazakhskaya doroga  
(for Fedosov). 2. Master tsekha bol'skogo periodicheskogo remonta,  
depo Chu, Kazakhskaya doroga (for Skorkin).

(Diesel locomotives)

(Terekhov, V.M.)

(Murshin, I.I.)



YERKIMBAYEVA, A.

Effect of the length of the day on the differentiation of the  
vegetative cone of spring wheat in Kirghizistan. Izv. AN Kir.  
SSR. Ser. biol. nauk 3 no.3:107-115 '61. (MIRA 14:12)  
(KIRGHIZISTAN--WHEAT) (PHOTOPERIODISM)

YERKIN, A. (Barnaul)

Flash synchronizer operating on the miniature MTKh-90 thyatron.  
Sov.foto 21 no.6:29 Je '61. (MIRA 14:6)  
(Photography, Flashlight--Equipment and supplies)

YERKIN, A.

Automatic temperature regulation. Sov.foto 22 no.1:26-27 Ja  
'62. (MIRA 15:1)  
(Thermostat) (Photography--Equipment and supplies)

YERKIN, A., inzh.

Photoelectric relay using cold cathode thyratrons. Radio  
no.10:29 0 '63. (MIRA 16:11)

YERKIN, A.

Universal cold cathode tube. IUn.tekh. 8 no.11:68-73 N '63.  
(MIRA 16:12)

YERKIN, A.A.

Mining with a sawing machine under the conditions of Mine  
No.10/16. Ugol' 36 no.11:37-38 H '61. (MIRA 14:11)

1. Nachal'nik shakhty No.10/16 tresta "Suchanugol".  
(Suchansk Basin--Coal mines and mining)

YERKIN, A.A., inzh.

Results of mining the "Barsuk" seam subject to bumps at the No.10  
Trest of the "Suchanugol" Mine. [Trudy] VNIMI no.49:218-222  
'62. (MIRA 17:4)

1. Shakhta No.10 tresta Suchanugol'.

YERKIN, A.M.

Check of cold-cathode tubes. Iss. tekhn. no. 6:42-43 Ia '63.  
(MIRA 16:8)

(Electron tubes—Testing)



YEFIMENKO, V.F. (Vladivostok); YERIN, A.M. (Barnaul)

What a new textbook on physics should be like. Fiz. v shkole  
23 no.3:54-55 My-Je '63. (MIRA 16:12)

YERKIN, I.A.

Prophylaxis for primary and secondary bleeding due to different methods of adenomectomy of the prostate. Trudy SMI 16:164-167 '63.

(MIRA 18:1)

Late complications following a suprapubic transvesical and a retropubic extravesical adenomectomy of the prostate. Ibid.:168-172

1. Iz kafedry obshchey khirurgii (zav. - prof. G.G.Dubinkin) Smolenskogo zhsudarstvennogo meditsinskogo instituta.

YERKIN, L.I.

Yield of chemical products in technical coking of Bu-  
chansk and Buhachinsk coals. I. I. Yerin and O. N.  
Lebedeva. *Chem. and Chem. (U. S. S. R.)* 11, No. 5, 2-6  
(1941); *Chem. Zentr.* 1940, 1, 1842.--The industrial  
coking of coals from the Far East gave small yields of chem.  
products; the Buhachinsk coal yielded 825 cu. m.  
gas, 2.3% tar, 0.75% benzene and 0.18% NH<sub>3</sub> per ton  
dry coal. The Buchansk coal yielded correspondingly 810  
cu. m. gas, 3.5% tar, 0.8% benzene and 0.18% NH<sub>3</sub> per  
ton dry coal. The increase of the coking period from 15  
to 22 hrs. did not influence the yield of the chem. products,  
but improved their quality. The tar obtained from both  
varieties of coal, under ordinary conditions, was light and  
contained much oil. S. G. Macdonald

ABB-51A METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSING AND PROPERTY INDEX																			
YERKIN, L.I.																			
21																			
ca																			
<p>A new apparatus for the measurement of vertical settling of the coking mixture. L. I. Yerkin and V. K. Petrov. <i>Zavodskaya Lab.</i> 12, 88-92(1946).—An iron disk rests on the top of the coke-oven charge, and its movement is automatically registered during the coking process. At the beginning of coking, the height of the charge decreased rapidly, then slowly, and after 2 hrs. the rate of settling was stabilized into a uniform slope. Towards the end of the coking process the settling rate increased. Three references.</p>																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>RECORDING</p> <p>SEARCHED INDEXED</p> <p>FILED</p> <p>1946</p> <p>NOV 1</p> <p>1946</p> <p>NOV 1</p>																			

YERKIN, L.I.

CA

Determination of the volume change of coking material at high temperatures. L. I. Yerkin and L. I. Gorbunova. *Zhurnal Fiz. Khim.* 16, 801-7 (1942).—Vol. changes of semicoke subjected to coking at various temps. were studied. The expts. were performed on cylinders of semicoke of known length (12 to 18 mm.) placed in a quartz tube and surrounded by a tubular furnace. Devices for measuring length of the cylinder and temp. were included in the app., which was called a "contractometer." Results were expressed as percentage of linear contraction. The semicoke was prepd. from Kuznetsk coals at a limiting temp. of 800°. Linear contraction of semicoke tested in the contractometer was shown to be 0.9% less with 10°/min. heating than with 3°/min. heating. A heating rate of 10°/min. was used in further expts. Contraction began in all cases at about 800°. With further rise in temp. the rate of contraction increased to a max. at 750-800° and then decreased from 800 to 1100°. Total contraction increased with rise in temp. Samples of semicoke heated to 700, 900, and 1100°, resp., were cooled and reheated to 710, 910, and 1100°, respectively, and kept at the end temp. for 30 min. Further contraction took place, the low-temp. coke contracting more than the high temp. coke. Rpts. with samples prepd. at low temp. and studied at high temps. showed heat decompos. (vol. increase) followed by contraction. The transition corresponded to coking temp. The contractometer was also used to test completeness of coking in com. ovens. Nancy Corbin

Eastern Sci. Res. Inst. Coal Chemistry

**ERKIN, U.I.**

**Determination of Transverse Shrinkage of the Coke Mass During the Coking Process. (In Russian.) L. I. Erkin. Zaredskaya Laboratoriya (Factory Laboratory), v. 14, Oct. 1948, p. 1224-1229.**

Proposes a specially developed apparatus for the above. Data from a typical determination are tabulated and graphed.

68-58-2-4/21

AUTHORS: Yerkin, L.I., Lobanova, L.I. and Bernatskaya, M.A.

TITLE: ~~Coking of Eastern Coals~~ with the Application of Stamp Charging (Koksovaniye vostochnykh ugley s primeneniye trambovaniya)

PERIODICAL: Koks i Khimiya, 1958, Nr 2, pp 23-30 (USSR)

ABSTRACT: Studies of coking Eastern coals using stamp charging were carried out on an experimental oven, 400 mm wide and a capacity of 220-250 kg with stamp charging. The quality of coke was tested on a small drum and expressed in indices of the standard drum. Results of coking Bureinsk and Bazoysk gas coals - Table 1; tests of blends from Kuznets coals at the normal degree of crushing - Table 2, at various methods of crushing and various degrees of fineness of blends - Table 3; results of testing Karagandinsk coals - Table 4. Conclusions: Coking with stamp charging is advantageous only for certain coals and coal blends. Its application is most effective for blends containing considerable proportions of gas and weakly coking coals, which normally charged, produce poor coke. The volatile content of blends suitable for stamp charging can be increased to 30-31% and their coking ability lowered to 11-13 mm. For the successful application of stamp charging, a correct choice of the method and degree of

Card 1/2

Coking of Eastern Coals with the Application of Stamp Charging 68-58-2-4/21

crushing of coal blends is particularly important. The higher the coking ability of the blend and its volatile content, the higher should be its degree of fineness. The degree of compacting of the charge is related to its coking ability and degree of fineness. There are 4 tables and 1 figure.

ASSOCIATION: VUKHIN

AVAILABLE: Library of Congress

Card 2/2

1. Coal - Processing      2. Coke - Production



YE R K I N , L . I .

PLATE 2 BOOK EXPLANATION 807/2127

5(3)

Exhaustive (exhaustive) shortlist study (by-product cooking industry) (Collection of Articles) Moscow, Metallurgizdat, 1959. 280 p. 2,500 copies printed.

Ed.: L. I. Filipovskiy. Ed. of Publishing House: A. A. Beryozkin. Tech. Ed.: P. G. Tolstopyan.

REMARKS: The book is intended for engineers and technicians in the by-product cooking industry and in scientific research institutions. The book may also be used by students in secondary and higher technical schools.

CONTENTS: The articles in this collection on the by-product cooking industry appeared originally either in the periodical *Koks i Khimika* (Coke and Chemistry) or in other publications during 1955-1958. The book discusses the development of new material reserves for cooking, technology of the manufacture of coke, quality of coke and further enlargement of the number of articles on the preparation and use of coke. Some articles are devoted to a new procedure for preparing and beneficiating coke, new articles for smelting, and to the mechanization and automation of industrial processes. Numerous secondary individual articles.

Editor: L. I. Filipovskiy, and M. G. Pol'chikov. [REDACTED] The Series Principle for Preparation of Coke for Cooking by Grinding of Cooking Coke in Heavy Media

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 76

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 96

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 119

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 137

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 149

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 156

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 167

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 183

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 197

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 212

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 227

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 234

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 249

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 264

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 279

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 294

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 309

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 324

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 339

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 354

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 369

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 384

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 399

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 414

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 429

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 444

Editor: V. Ya. [REDACTED] (Candidate of Technical Sciences, USSR). Beneficiation of Cooking Coke in Heavy Media 459

Card 1/4

807/2127  
10-30-59

SOV/68-58-8-23/28  
AUTHOR: Yerkin, L.I., Candidate of Technical Sciences  
TITLE: Communication on the Standardisation of Methods of Testing  
the Quality of Coke (Soobshcheniye po standartizatsii  
metodov ispytaniya kachestva koksa)  
PERIODICAL: Koks i Khimiya, 1958, Nr 8, pp 58 - 60 (USSR)  
ABSTRACT: This is a report on the meeting of the International  
Organisation for Standardisation, which took place in  
April, 1957, in Essen. *in Eng*  
There are 3 tables.  
ASSOCIATION: VUKhIN  
1. Coke--Test methods  
Card 1/1

SOV/68-58-2-4/20

AUTHORS: Yerkin, L.I., Petrov, V.K. and Bernatskaya, M.A.

TITLE: Thermal Preparation of Coals for Coking (Termicheskaya podgotovka ugley dlya koksovaniya)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 13 - 16 (USSR)

ABSTRACT: The influence of pre-heating of coals and coal blends before charging to ovens on the quality of coke produced was investigated using a laboratory coking retort and pilot-plant oven (180 - 200 kg of coal per charge). The laboratory results are assembled in Tables 1 and 2 and the pilot plant results in Table 3. It was found that: 1) pre-heating of coals before coking to 150 - 350 °C under conditions excluding their oxidation leads to a substantial increase in the structural strength of the coke (strength of a piece of coke free from fissures). The relative increase in the structural strength of coke obtained by pre-heating is higher for coals of low caking ability; 2) for all coals there is an optimum pre-heating temperature which secures the production of coke of the highest structural strength. The optimum pre-heating temperature for all the coals investigated lies within a narrow temperature range of 150 - 250 °C; 3) the basic cause of the increase in the

Card1/2

SOV/68-58-2-4/20

Thermal Preparation of Coals for Coking

structural strength of coke on coking of pre-heated coal is assumed to be due to an increase in the bulk density of the coal charge. In view of the above, the pre-heating of coal before charging can be considered as one of the possible methods of increasing the bulk density of the coal charge. For coal blends similar in properties to industrial blends, the change in the coke strength with increasing pre-heating temperature follows the change which takes place in the structural strength of coke;

5) pre-heating of coal blends before their coking is accompanied by a substantial increase in the strength of coke. For the blends tested, the increase amounted to 12-30 kg and a decrease in the 10-0 mm fraction by 15-35 kg. There are 3 tables and 5 references, 2 of which are German and 3 Soviet.

ASSOCIATION: VUKHIN

Card 2/2



MAKAROV, G.N.; KAZINIK, Ye.M.; POPCHENKO, R.A.; SEMENOV, A.S.; YERKIN,  
L.I.; RYVKIN, I.Yu.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.; KUZNETSOV ,  
P.V.; ZOROKHOVICH, G.Ya.

Coking of the coal charge in an oven with a rotating ring floor.  
Koks i khim. no.11:34-41 '62. (MIRA 15:12)

1. Moskovskiy khimiko-tekhnologicheskij institut im. D.I. Mendeleeva (for Makarov, Kazinik, Popchenko, Semenov).
2. Vostochnyy uglekhimicheskiy institut (for Yerkin, Ryvkin, Privalov).
3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (Mustafin, Kuznetsov, Zorokhovich).  
(Coke)

YERKIN, L.I., kand.tekhn.nauk; Frinimala uchastiye KOMAROVSKAYA, G.M.

Coking coal from Eastern regions in extra narrow coke oven chambers.  
Koks i khim. no.3:18-22 '63. (MIRA 16:3)

1. Vostochnyy uglekhimicheskiy institut.  
(Kuznetsk Basin—Coal)

(Coke ovens)

YERKIN, M.

Quality of SP-55 filter breathing apparatuses. Ugol' 34 no.1:51  
Ja '59. (MIRA 12:1)

1. Upravleniye Rostovskogo okruga Gosgortekhnadzora RSFSR.  
(Respirators)



KOZLOV, P. (g. Rovno); SOKOLOV, A.; CHERKASOV, N.; YERKIN, M.;  
SHCHEGLOV, A., instruktor; BONDAR', H.; MORSHCHIN, S., inzh.  
(Kazan'); SOKOLOV, S.; BARINOVA, Z., inzh.

Readers relate, advise and criticize. Sov. profsoyuzy 18 no.18:32-  
33 S '62. (MIRA 15:9)

1. Neshtatnyy korrespondent zhurnala "Sovetskiye profsoyuzy" (for Kozlov). 2. Rukovoditel' lektorskoy gruppy oblastnogo soveta professional'nykh soyuzov, (for Sokolov). 3. Rabotnik ob'yedineniya "Sel'khoztekhnika", Tlumachskiy rayon, Stanislavskoy obl. (for Cherkasov). 4. Zaveduyushchiy Chelyabinskoy yuridicheskoy konsul'tatsiyey professional'nykh soyuzov (for Yerkin). 5. Rayonnyy komitet professional'nogo soyuza zheleznodorozhnikov Karagandinskogo otdeleniya Kazakhskoy zheleznoy dorogi (for Shcheglov). 6. Sekretar' postoyanno deystvuyushchego proizvodstvennogo soveshchaniya tsentral'nykh remontnykh masterskikh tresta "Ukrgezneftestroy", Kiyev (for Bondar'). 7. Zaveduyushchiy neshtatnym otdelom truda i zarabotnoy platy pri Kalininskom oblastnom komitete professional'nogo soyuza rabochikh stroitel'stva i promyshlennosti stroitel'nykh materialov (for Sokolov). 8. Krasavinskiy l'nokombinat, g. Krasavino, Vologodskoy obl. (for Barinova).  
(Labor laws and legislation) (Trade unions)  
(Russia—industries)

YERKIN, M.A., insh.

In coal mines of China, Bezop, truda v prom. 3 no.10:7-9  
0 '59. (MIRA 13:2)

(China--Coal mines and mining)

YERKIN, M.A., inzh.; RABICHEV, A.I., inzh.

New machine units for coal mining. Bezop.truda v prom.  
4 no.8:22 Ag '60. (MIRA 13:8)

1. Nachal'nik upravleniya Rostovskogo okruga Gosgortekhnadzora RSFSR (for Yerkin). 2. Nachal'nik tekhnicheskogo upravleniya kombinata Rostovugol' (for Rabichev).  
(Coal mining machinery)

YERKINA, N. G.

USSR/Biology - Parasitology

Card : 1/1

Authors : Yerkina, N. G.

Title : Cycle of development of trematoda Notocotylus Chionis, parasites of planktonic birds.

Periodical : Dokl. AN SSSR, 97, Ed. 3, 559 - 560, July 21, 1954

Abstract : Laboratory data on the life cycle of trematoda Notocotylus Chionis a planktonic bird parasite. Drawings.

Institution : Zooveterinary Institute, Semipalatinsk

Presented by : Academician, K. I. Skryabin, May 3, 1954

YERKO, V.F.; BUGAYEVA, N.I.

Spectrographic determination of iron, aluminum, calcium, magnesium, copper, and nickel in metallic manganese of high purity. Fiz.sbor. no.4:490-491 '58. (MIRA 12:5)

1. Fiziko-tekhnicheskiy institut AN USSR, Khar'kov.  
(Manganese—Spectra)

18(3), 7(6)

AUTHORS:

Lifshits, Ye. V., Konovalov, V. G.,  
Yerko, V. P.

SOV/32-24-12-24/45

TITLE:

Spectral Analysis of Binary Iron-Chromium Alloys  
(Spektral'nyy analiz binarnykh splavov zheleza s  
khromom)

PERIODICAL:

Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12,  
pp 1483 - 1484 (USSR)

ABSTRACT:

A method is described for determining chromium in iron (0.1-30% Cr), and for determining iron in chromium (0.1 - 1% Fe). Unalloyed samples, thin metal films (to 20  $\mu$ ), and dispersions of chromium in the surface of iron-chromium alloys (to a depth of 750  $\mu$ ) were investigated. The metal films were obtained by evaporating the alloy on an aluminum support and in a high vacuum. The standard solutions were prepared by dissolving the material and were determined using the porous cup electrode method of Feldman (Fel'dman) (Ref 1). A Q-12 spectrograph and a IG-2 generator were used. The analysis of

Card 1/2

Spectral Analysis of Binary Iron-Chromium Alloys

SOV/32-24-12-24/45

the unalloyed samples was carried out in the usual way. The accuracy of the method is  $\pm 6\%$ . Comparison of the analytical results with those obtained chemically (by N.V.Sivokon') shows a satisfactory agreement (Table). The analytical results on the dispersion of the chromium (Figure) were used to calculate the diffusion coefficient for chromium in iron. The metal films on the aluminum support were investigated in a local analysis using a generator, and these results were found to agree with the analysis of the solutions. N.I.Bugayeva and L.N. Mosova participated in the experiments. There are 1 figure, 1 table and 1 reference.

ASSOCIATION: Fiziko-tehnicheskiy institut Akademii nauk USSR  
(Physical-Technical Institute, Academy of Sciences, UkrSSR)

Card 2/2

S/185/61/006/006/021/030  
D299/D304

AUTHORS: Yerko, V.F., Lifshyts', Ye.V., Konovalov, V.H.,  
Dubyns'kyi, I.H., and Buhayova, N.I.

TITLE: Spectral analysis of magnesium-beryllium alloys

PERIODICAL: Ukrayins'kyi fizychnyy zhurnal, v. 6, no. 6, 1961,  
837 - 842

TEXT: The present work was prompted by the need to develop magnesium-beryllium alloys for protective coatings of heat-transfer elements. Binary and multicomponent magnesium alloys were investigated, with beryllium (as basic addition), aluminum, calcium and zirconium. The admixtures were determined by the method of spectral analysis of solutions. As a control method, the spectrophotometric method was used for determining beryllium. Sodium and potassium were determined by the method of flame spectrophotometry and photoelectric recording of spectra. The beryllium concentration in binary alloys was determined by the three-specimen method. The multicomponent magnesium alloys were analyzed for Al, Be, Ca, Zr (basic ad-

Card 1/3



Spectral analysis of magnesium- ...

S/185/61/006/006/021/030  
D299/D304

ditions), and Fe, Cu and Ni (impurities). The calibration curves are shown in a figure. The results of spectral- and chemical analysis were in good agreement. As a direct method of analysis of the binary alloy, magnesium and beryllium were distilled simultaneously in a high vacuum. Such a method made it possible to prepare a series of sufficiently homogeneous samples with a beryllium concentration of 0.0003 to 6.0 %. From a table it is evident that the results of direct analysis of metallic specimens and of analysis of the solutions were in good agreement. The spectrophotometric method of determining the beryllium concentration in the alloy, involved the use of sulfosalicylic acid and of trilon B (B) (the latter for the purpose of cancelling the effect of magnesium). The spectrophotometer Cφ -4 (SF-4) was used. The optical density was measured at a wavelength of  $\lambda = 317$  mμ. The method permitted the determination of a beryllium concentration of 0.005 - 10 %. The data related to the flame spectrophotometric method used for detecting the presence of sodium potassium in the magnesium alloy, are listed in a table. There are 1 figure, 5 tables and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication

Card 2/3

Spectral analysis of magnesium- ...

S/185/61/006/006/021/030  
D299/D304

reads as follows: H.V. Meek, C.V. Banks, Chemistry, 22, no. 12,  
1512, 1950.

ASSOCIATION: Fizyko-tekhnichnyy instytut AS UkrRSR (Physicotechnical  
Institute of the AS UkrRSR, Kharkiv)

Card 3/3

✓  
—

34440

S/185/61/006/006/022/030

D299/D304

18.8100

AUTHORS: Lifshyts', Ye.V., Yerko, V.F., Buhayova, N.I., and Mosova, L.M.

TITLE: Spectral analysis of certain pure metals

PERIODICAL: Ukrayins'kyi fizychnyy zhurnal, v. 6, no. 6, 1961.  
846 - 850

TEXT: Methods are described for spectral analysis of pure metals, used in the spectrum laboratory of the Physicotechnical Institute of the AS UkrRSR. The following metals were investigated with respect to 7 to 20 impurities: Manganese, chromium, beryllium, nickel, cobalt, molybdenum, zirconium, zinc and iron; silicon was also investigated. The impurity concentration ranged from  $10^{-1}$  to  $10^{-4}$  %. The analysis of pure metals is based on the method of powder-oxide analysis. In order to increase the sensitivity of analysis of the concentration, the following methods were used: Fractionation in a d.c.-arc, evaporation from the melt (the so-called globule arc), enrichment by means of impurity distillation, and chemical methods of

Card 1/3

Spectral analysis of certain ...

S/185/61/006/006/022/030  
D299/D304

concentration of impurities. First, the method of fractionation is considered. The specimen, placed in the graphite electrode, formed the anode of the arc, whereas the cathode was formed by a graphite rod. Preparation of the specimens, Conditions of the analysis and Sensitivity of determination of the concentration are given in a table. The sensitivity varied between  $3 \cdot 10^{-3}$  to  $1 \cdot 10^{-4}\%$ . The method is accurate to within  $\pm 10 - 20 \%$ . The impurity concentration and the sensitivity can be considerably increased by using a distillation method, developed by S.L. Mandel'shtam et al., whereby the processes of extraction of impurities and of their spectral excitations were separated. The authors used this method for detecting the presence of readily volatile impurities in chromium. The vaporization temperature was  $1500^{\circ}\text{C}$ , the duration - 90 seconds. The sensitivity of detecting Pb, Bi, Sn, Cd and Sb, was  $1 \cdot 10^{-4} \%$ . The globule-arc method yields high sensitivity; it is mainly used for analysis of metal oxides with moderate melting point and which have (in the melted state) high electrical conductivity. The authors analyzed (by this method) nickel, cobalt, and iron of high purity. The sensitivity of this method is by one order of magnitude higher than

Card 2/3

Spectral analysis of certain ...

S/185/61/006/006/022/030  
D299/D304

that of the fractionation method; the increase in sensitivity is particularly noticeable in the detection of readily volatile substances. The method of chemical enrichment of the specimens with subsequent spectral analysis of impurity concentration was used for beryllium, molybdenum and iron of high purity. The method involves the separation of the basic element by means of a selective reaction. The use of the spectro-chemical method makes it possible to considerably increase the sensitivity of analysis, which reaches  $1 \cdot 10^{-6} \%$  for certain impurities (with an error of  $\pm 20 \%$ ). There are 2 tables and 9 Soviet-bloc references.

ASSOCIATION: Fizyko-tekhnichnyy instytut AS UkrRSR (Physicotechnical Institute of the AS UkrRSR, Kharkiv)

Card 3/3

X

L 02014-67 EWT(m)/ENP(t)/ETI IJP(c) JD/JG/JH  
ACC NR: AP6027793 (N) SOURCE CODE: UR/0126/66 /022/001/0112/0114

AUTHOR: Yerko, V. F.; Zolenskiy, V. F.; Krasnorutskiy, V. S.

ORG: Physico-Technical Institute, AN UkrSSR, Khar'kov (Fiziko-tekhnicheskiy institut AN UkrSSR)

TITLE: Diffusion of beryllium in magnesium

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 1, 1966, 112-114

TOPIC TAGS: metal diffusion, beryllium, magnesium, pressure effect

ABSTRACT: A Mg-Be alloy containing 0.2% Be was produced by simultaneous deep-vacuum evaporation and condensation of Mg and Be on a single substrate. Metallographically the compound was represented by a solid solution of Be in Mg which included tiny particles of the intermetallic compound  $MgBe_{13}$ . The resulting alloy was sintered under a pressure of 600 atm at a temperature equal to the temperature of subsequent diffusion annealing. To investigate the effect of hydrostatic pressure on the diffusion of Be in Mg, two lots of specimens were prepared. The first lot was diffusion-annealed at atmospheric pressure in a special steel shell filled with MgO and the second lot was annealed at 600 atm. The distribution of Be in Mg was

Card 1/4

UDC: 539.292.539.219.3

L 09014-67

ACC NR: AP6027793

determined by means of local spectral analysis (Fig. 1) (for description of local spectral ana-

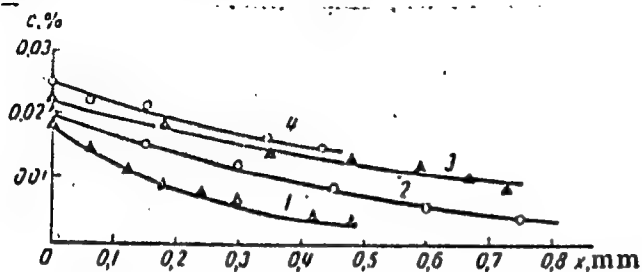


Fig. 1. Curves of the distribution of Be concentration in Mg at temperatures of:

1 - 500°C; 2 - 525°C; 3 - 560°C;  
4 - 600°C

lysis of. Yerko, V. F., Krasnorutskiy, V. S. Zavodskaya laboratoriya, 1966, 22, No 2, 161). The resulting findings on the solubility of Be in Mg as a function of temperature (Fig. 2) were used to derive the formula for the diffusion coefficient D of Be in Mg:

$$D = 8,06 \exp\left(-\frac{37400 \pm 2700}{RT}\right)$$

Card 2/4

L 09014-67  
ACC NR: AP6027793

log D

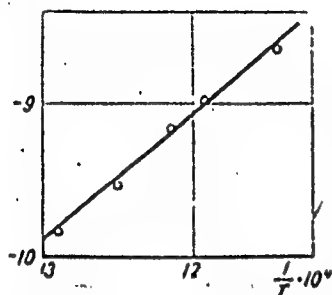


Fig. 2. Temperature dependence of the diffusion coefficient D of Be in Mg

The corresponding values of D are presented in the table below:

Annealing Temperature, °C	Annealing Time, $t \cdot 10^3$ sec	$D \cdot 10^8$ cm <sup>2</sup> /sec	
		p = 1 atm	p = 600 atm
600	778 2448	0,22	0,24
565	1181	-	0,1
560	2552,8	0,087	-
550	1890	-	0,066
525	3819,6	0,029	-
500	2246,4	0,014	-

Card 3/4



L 09014-67

ACC NR: AP6027793

0

It is thus seen that increasing the pressure to 600 atm during diffusion annealing does not affect the diffusion rate. These findings should contribute to knowledge of the effect of Be on the high-temperature strength and mechanism of oxidation of Mg-Be alloys. Orig. art. has: 3 figures, 1 table, 4 formulas.

SUB CODE: 11, 20/. SUBM DATE: 02Aug65/ ORIG REF: 003/ OTI REF: 001

Card 4/4 not

L 21727-66 EWT(m)/T/EWP(t) IJP(c) JD/JG/JH

ACC NR: AP6008062

(N)

SOURCE CODE: UR/0032/66/032/002/0161/0164

AUTHOR: Yerko, V. F.; Krasnorutskiy, V. S. 62ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-tehnicheskii institut Akademii nauk UkrSSR) 16 47TITLE: Use of localized spectral analysis for studying diffusion of beryllium into magnesium 47

SOURCE: Zavodskaya laboratoriya, v. 32, no. 2, 1966, 161-164

TOPIC TAGS: spectrum analysis, microchemical analysis, beryllium, magnesium, metal diffusion

ABSTRACT: The authors use the methods of localized spectral analysis (line source, laminar analysis) to determine the coefficients of diffusion of beryllium in magnesium in the 500-600°C range. The excitation source was a rectified hf discharge spark from a PS-39 generator. The spectra were taken on an ISP-28 quartz spectrograph. Optimum polarity conditions are achieved by using the specimen as the cathode in the line source method. The concentration sensitivity for determination of beryllium in magnesium under these conditions is  $4 \cdot 10^{-3}\%$  for a material consumption of  $6 \cdot 10^{-5}$  g. The line source results were checked by using the laminar analysis method with the specimen connected as the anode. This method also gives a sensitivity for beryllium

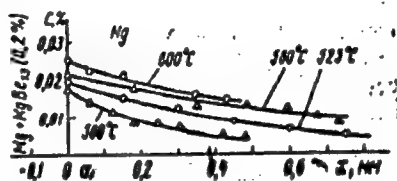
UDC: 543.42 2

Card 1/2

L 21727-66

ACC NR: AP6008062

determination of  $4 \cdot 10^{-3}\%$ . The experimental data were used for plotting concentration curves for the distribution of beryllium in magnesium at diffusion annealing temperatures of 500, 525, 560 and 600°C. These diffusion curves were used for calculating the coefficients of diffusion of beryllium in magnesium, plotting the temperature relationship for the coefficients of diffusion, calculating the activation energy for diffusion process in magnesium-beryllium alloys and evaluating the solubility of beryllium in magnesium in the 500-600°C temperature range. A comparison of the numerical results for the coefficients of diffusion calculated by the line source method and by the laminar analysis method showed a divergence of less than 8-10%. Orig. art. has: 4 figures.



Curves for diffusion distribution of beryllium concentration in magnesium for various annealing temperatures.

SUB CODE: 20/

SUBM DATE: 00/

ORIG REF: 008/

OTH REF: 003

Card 2/2 *aka*

YERKOMAYSHVILI, A. K.

"The Vegetation of Certain Marshes and Salt Bogs Near Tbilisi." Cand Biol  
Sci, Tbilisi U, Tbilisi, 1954, (RZhBiol, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (13)  
SO: Sum. No 598, 29 Jul 55

5 (3)  
AUTHORS:

Nazarov, I. N., Cherkasova, Ye. M.,  
Yerkomaishvili, G. S.

SOV/62-59-9-14/40

TITLE:

Synthetic Anesthetic Substances. Communication 28. Ester of the  
Phenyl-alkyl-amino Ethanol

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 9, pp 1605 - 1611 (USSR)

ABSTRACT:

The synthesis of the substances mentioned in the title was carried out with a view to the joint action of cocaine and vessel-constricting agents. Following an idea of A. V. Vishnevskiy, the addition of adrenalin to anesthetics was to be eliminated. Acyl derivatives of phenyl-alkyl-amino ethanol are synthesized, and their pharmacological effect is investigated. (The investigation of the influence of the chainlength on the anesthetic- and vessel-constricting effect will be published in a later paper.) The synthesized substances are then compared with natural similar derivatives of the aminopropanols, which also represent anesthetics of various efficiency. A series of similarly composed esters of the 1-alkyl-1-phenyl-2-diethylaminoethane-1-ols with straight and branching ethanol chains (I) and (II) were synthesized. The synthesis was carried out according to the following

Card 1/3

Synthetic Anesthetic Substances. Communication 28.  
Ester of the Phenyl-alkyl-amino Ethanol

SOV/62-59-9-14/40

scheme: basic substance was bromated phenacyl which was converted into  $\alpha$ -dimethylaminoacetophenone (III) by dimethylamine in ether. From (III) the above-mentioned compound is obtained by the effect of the Grignard reagent, which can then be transformed under simple conditions into various esters (benzoates, phenoxyacetates,...). The branched-off compounds were obtained by similar step-by-step transformation of the propiophenone. The synthesized esters formed in the shape of their hydrochloride; they are colorless, well-crystallizing, water-soluble substances. The preparations were given to the NIKhFI im. Ordzhonikidze-Laboratoriya prof. M. D. Mashkovskogo (NIKhFI imeni Ordzhonikidze-Laboratory of Professor M. D. Mashkovskiy) for physiological testing. The experimental part of the article describes the conditions of synthesis. The intermediate products of the synthesis were amino ketones (III), (V), and secondary and tertiary amino alcohols with residues of diethylamines. There are 21 references, 8 of which are Soviet.

Card 2/3

Synthetic Anesthetic Substances. Communication 28. SOV/62-59-9-14/40  
Ester of the Phenyl-alkyl-amino Ethanol

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova  
(Institute of Fine-chemical Technology imeni M. V. Lomonosov)

SUBMITTED: December 23, 1957

Card 3/3

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Synthesis of 1-aryl-4-dimethylamino-1-butanol and their esters.  
Izv. AN SSSR Otd. khim. nauk no.10:1820-1824 O '60. (MIRA 13:10)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.  
(Butanol)



CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Synthesis of cyclohexyl- $\beta$ -dimethylaminoethylcarbinols and their esters. Zhur.ob.khim. 31 no.6:1832-1838 Je '61. (MIRA 14:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Methanol)

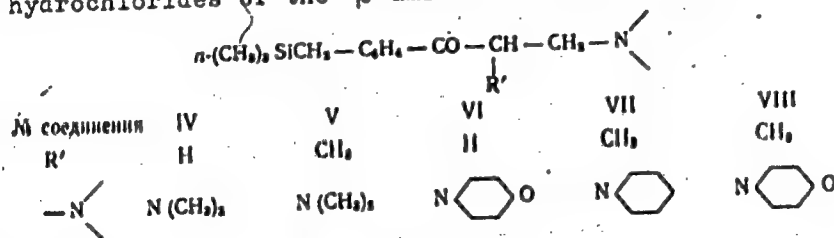
S/020/62/145/004/020/024  
B110/B144

AUTHORS: Cherkasova, Ye. M., Yerkomaishvili, G. S., Makovskaya, T. N.,  
and Chao Ping-ko

TITLE: Synthesis of new types of silicon-containing aminoketones,  
amino alcohols, and their esters

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 841 - 844

TEXT: n-silico-neopentyl acetophenone (I), n-silico-neopentyl propio-  
phenone (II) and n-silico-neopentyl isobutyrophenone (III) were obtained  
by acylation of trimethyl benzyl silane in the presence of  $AlCl_3$  or  $ZnCl_2$ .  
Good yields of hydrochlorides of the  $\beta$ -aminoketones IV - VIII

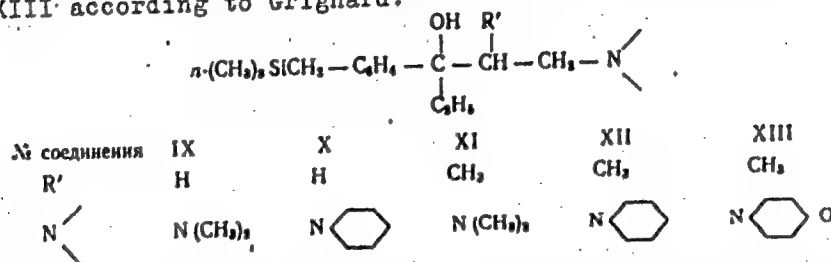


Card 1/3

S/020/62/145/004/020/024  
B110/B144

Synthesis of new types of ...

resulted from I and II according to Mannich with dimethyl amine, piperidine, and morpholine. These compounds were transformed to tertiary amino alcohols IX - XIII according to Grignard:



II is formed by deamination of IV and deaminomethylation of V. The bases of the amino alcohols were converted with the chloride of phenoxy acetic acid to phenoxy acetates which may be used as local anesthetics.  
Boiling points: I: 94 - 95°C (1 mm Hg); II: 114 - 117°C (1.5 mm Hg); III: 120 - 125°C (1.5 mm Hg);  $n_D^{20}$ : I: 1.5260; II: 1.5233; III: 1.5170.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

Card 2/3

Synthesis of new types of ...

S/020/62/145/004/020/024  
B110/B144

PRESENTED: March 12, 1962, by. A. A. Balandin, Academician

SUBMITTED: March 10, 1962

Card 3/3

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.; MIROSHNICHENKO, I.D.

On the two products of aminomethylation of cyclohexyl methyl ketone.  
Zhur.ob.khim. 33 no.4:1244-1246 Ap '63. (MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
M.V.Lomonosova.  
(Ketone) (Aminomethylation)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Esters of phenylalkyl(4-morpholino)propanols. Zhur. ob. khim.  
33 no.5:1661-1666 My '63. (MIRA 16:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
Lomonosova.  
(Morpholine) (Propanol) (Esters)

CHERKASOVA, Ye.M.; YERKOMAISHVILI, G.S.

Secondary amino alcohols and their esters. Zhur.ob.khim. 33  
no.7:2106-2109 J1 '63. (MIRA 16:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni  
Lomonosova.

(Alcohols) (Esters)

YERKOMAYSHVILI, S. K.

Yerkomayshvili, S. K. - "The chemical composition and food value of crude fodders of Eastern Georgia", Sbornik trudov (Gruz. zootekhn.-vet. in-t), Vol. VI, 1948, p. 49-61, with table, (In Georgian, resume in Russian).

SO: U-4110, 17 July 53, (Letopis Izhurnal 'nykh Statey, No. 19, 1949).



1. YERKOMAYSHVILI, S. K.
2. USSR (600)
4. Silkworms
7. Mulberry silkworm pupa is a valuable product. Tekst. prom. 12 no. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

YERKOMAYSHVILI, S. K. --

"Changing Wild Carnivores From Their Usual Meat-Eating Diet to a Nonmeat-Eating Diet." Dr Agr Sci, Georgian Zooveterinary Inst, Tbilisi, 1953.  
(RZhBiol, No 3, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR  
Higher Educational Institutions (10)

SO: Sum, No. 481, 5 May 55

VERESHCHAGIN, A.P., kand. med. nauk; YERKOV, V.P., kand. med. nauk

Partial homograft of the epiphyses in tuberculous gonitis  
and its sequelae. Vest. khir. no. 6:101-106 '65.

(MIRA 18:12)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta  
khirurgicheskogo tuberkuleza (dir. - prof. D.K.Khokhlov;  
nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR prof.  
P.G. Kornev).

POPOV, V.I., prof. (Leningrad, ul. Gogolya, d. 19, kv.7), YERKOV, V.P.

Skin homotransplantation [with summary in English]. Vest.khir.  
81 no.10:31-38 0 '58 (MIRA 11:11)

1. Iz kliniki obshchey khirurgii No.1 (nach - prof. V.I. Popov)  
Voyenno-meditsinskoy ordena Lenina akdemi S.M. Kirova.

(SKIN TRANSPLANTATION

homografts preserved by cold in rabbits & humans  
(Rus))

YERKOVA, L. N.

"Study of the Suspended Layer Phenomenon." Cand Tech Sci, Leningrad  
Technological Inst, Leningrad, 1954. (RZhMekh, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical  
Dissertation Defended at USSR Higher Educational Institutions  
(14)

YERKOVA, L.N.; SMIRNOV, N.I.

Free precipitation of solid spherical particles in a liqued medium.  
Zhur.prikl.khim. 29 no.5:733-738 My '56. (MLBA 9:8)

1. Kafedra tekhnologii osnovnogo organicheskogo sinteza i sinte-  
ticheskikh kauchukov Leningradskogo tekhnologicheskogo intituta  
imeni Lenseveta.

(Precipitation (Chemistry))

YERKOVA, L.N.

YERKOVA, L.N.; SMIRNOV, N.I.

Height of a suspended layer of spherical particles and its  
dependence on the conditions of the process. Zhur.prikl.khim.  
29 no.8:1175-1182 Ag '56. (MIRA 10:10)

1.Kafedra tekhnologii organicheskogo sinteza i sinteticheskikh  
kauchukov Leningradskogo tekhnologicheskogo instituta im. Lensoveta.  
(Chemistry, Physical and theoretical)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962720020-2

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962720020-2"



72. ~~Author~~  
YERKOVA, L.N.; SMIRNOV, N.I.

Suspended layer of solid particles and its regularities.  
Zhur.prikl.khim. 29 no.10:1484-1488 0 '56. (MIRA 10:10)

1.Kafedra tekhnologii osnovnogo organicheskogo sinteza i  
sinteticheskikh kauchukov Leningradskego tekhnologicheskogo  
instituta im. Lensovetu.  
(Chemistry, Physical and theoretical)

**"APPROVED FOR RELEASE: 09/01/2001**

**CIA-RDP86-00513R001962720020-2**

**APPROVED FOR RELEASE: 09/01/2001**

**CIA-RDP86-00513R001962720020-2"**

SOV/124-58-10-11311

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 88 (USSR)

AUTHORS: Yerkova, L.N., Smirnov, N.I.

TITLE: The Suspended Layer of Solid Particles and the Laws Governing Its Behavior (Vzveshennyy sloy tverdykh chastits i yego zakonomernosti)

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 45, pp 68-80

ABSTRACT: Ref. Zh. prikl. khimii, 1956, Vol 29, Nr 10, pp 1484-1488;  
RZhMekh, 1957, Nr 9, abstract 10679

Card 1/1

S/080/61/034/002/007/025  
A057/A129

AUTHORS: Lebedeva, N.N., Yerkova, L.N., Smirnov, N.I., Ferner, N.A.

TITLE: Investigation into concentration of synthetic latex by the method of evaporation in an air flow

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 319-323

TEXT: In one of the Soviet plants for synthetic rubber the concentration of latex is carried out in an air flow in a rotating horizontal drum, which is heated with hot water. Since this apparatus will be used in several new plants, in the present work the effect of various factors on the evaporation process was studied in such an apparatus (Fig 1). The drum-shaped concentrator (1) is 402 mm long and 140 mm in diameter. It is made of glass and has two openings, the inlet (2) and outlet (3) for the air. The concentrator is inserted in a water tank (4) and by electrical heating (5) the temperature is kept constant. The latter was controlled

Card 1/7

Investigation into concentration ...

S/080/61/034/002/007/025  
AC57/A129

by thermoelements (6) and (7) with a milliammeter (8). Rotation is ensured by a motor with a reduction gear (9). Air is supplied by a vacuum cleaner (10) (type "Uralata") through a gas meter (11). Two series of experiments were carried out, i.e., periodical (as in the plant) and continuous concentrations. In continuous concentrations the latex was supplied from the funnel (12) through the tube (13) in portions into the concentrator and the concentrated latex passed through the outlet (3) into the container (14). The process was controlled by determining the dry substance in samples taken every 0.5 hr from (14). Investigations of different types of latex CKC-30PH (SKS-30GP), CKC-50PH (SKS-50GP), CKC-65PH (SKS-65GP), and CKC-50PH (SKS-50GP) showed little or no effect of the composition of the latex on the concentration process. In the present investigations concentration of SKS-50GP latex was studied at a concentrator rotation rate of 30 rpm, dry residue contents from 19 to 55% and temperature of 40°C (some at 50°C). According to equations for the evaporation of liquids from a surface (Ref 3: V.7. Kafarov, ZhPKh, 30, 10, 1456 (1957) criteria  $Nu'$  and  $Re$  were determined from  $Nu' = kd_{equiv.}/D$ ;  $Re = wd_{equiv.}/\mu$  g

Card 2/7

Investigation into concentration ...

S/080/61/034/002/007/025  
A057/A129

( $d_{equiv}$  = equivalent diameter of the cross-section of the concentrator not covered by the latex (in m),  $D$  = diffusion coefficient of steam in air ( $m^2/sec$ ),  $w$  = linear velocity of air in the concentrator (m/sec),  $\gamma$  and  $\mu$  = density ( $kg/cm^3$ ) and viscosity ( $kg\cdot sec/m^2$ ) of the initial air,  $k$  = mass transfer coefficient). The value for  $k$  was determined for the batch process from  $k = G/F\Delta c\tau$ , and for the continuous process from  $k = G_{sec}/F\Delta c$  ( $G$  = amount of evaporated water (kg) in the periodical run in the  $\tau$  time (sec),  $G_{sec}$  = amount of evaporated water (kg/sec) in the continuous run,  $F$  = surface of evaporation ( $m^2$ ),  $\Delta c$  = mean moving force (kg water per  $m^3$  dry air)). The function  $Nu' = f(Re)$  plotted in logarithmic coordinates indicates that experimental data are on a straight line expressed by  $Nu' = 0.830 Re^{0.5}$ . This equation can thus be used for practical calculations of concentration apparatus in intervals where the criterion  $Re$  changes from 400 to 1,700, and  $Nu'$  from 16 to 36. Results obtained in the present work were presented in Table 1 and 2. There are 2 figures, 2 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The latter reads as follows: T.K. Sherwood, R.L. Pigford, Absorption and Extraction (1952).

SUBMITTED: July 9, 1960

Card 3/7

LEREDEVA, N.H.; YERKOVA, L.M.; SMIRNOV, N.I.; FERMOR, N.A.

Study of the effect of some factors on the process of concentrating  
synthetic latexes. Zhur.prikl.khim. 35 no.1:201-204 Ja '62.

(MIRA 15:1)

(Rubber, Synthetic)

L 25665-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AM6008006 (A) Monograph

UR/

Reykhsfel'd, Valeriy Orlandovich; YErkova, Lyubov' Nikolayevna

Equipment for organic chemicals synthesis and synthetic rubber process industries. (Oborudovaniye proizvodstv osnovnogo organicheskogo sinteza i sineteticheskikh kauchukov). Moscow, Izd-vo "Khimiya," 1965. 623 p. illus., biblio., index. Errata slip inserted. 4000 copies printed.

TOPIC TAGS: chemical plant equipment, organic chemical, synthetic rubber, petrochemistry, food, pharmaceuticals, equipment designs, equipment operation, material balance, heat balance, process automation

PURPOSE AND COVERAGE: This is a handbook for engineers, technicians and designers concerned with organic chemicals' synthesis (monomers, alcohols, acids, etc), synthetic rubber, petrochemical, food and pharmaceutical process industries. It is suitable as a textbook for students of chemical institutions of higher education and for technicians. The book deals with the design and principles of operation of equipment, and provides data for establishing material and heat balances and for process automation. There are 254 Communist World and 60 Western references.

Card 1/2

UDC: 660.02



L 25665-66

ACC NR: AM6008006

2

# TABLE OF CONTENTS

Foreword -- 8

Introduction -- 9

Ch. I. Construction materials for equipment -- 14

Ch. II. Pipelines -- 56

Ch. III. Material and heat balances in organic chemicals' synthesis and synthetic rubber process industries -- 75

Ch. IV. Equipment for unit processes -- 106

Ch. V. Special equipment for the synthetic rubber process industries -- 234

Ch. VI. Condensation and heat exchange equipment -- 293

Ch. VII. Absorption equipment -- 382

Ch. VIII. Adsorption equipment -- 429

Ch. IX. Extraction equipment -- 464

Ch. X. Rectification equipment -- 497

Ch. XI. Principles of automatic control of organic chemicals' synthesis and synthetic rubber process industries -- 576

Appendices -- 588

References -- 611

Index -- 620

SUB CODE: 07,11/ SUBM DATE: 28Oct65/ ORIG REF: 197/ OTH REF: 051

Card 2/200a

YERKOVA, YU, V.

Works on the All-Union Peat Institute, (Min of Agri, RSFSR)

A Compendium of Instructions

Number 5, 1933, 108 pages, ~~Section~~ on the Study of Peat and Peat Beds:

Part 2, Field Geobotanical Studies:

"Instructions on Determining the Degree of Decomposition of Peat."  
by Yerkova, Yu. V., and Bokut', M.

SO: Botanicheskiy Zhurnal, Vol XXXV, No 1, pp 100-110,  
Jan-Feb 1950, Russian bimonthly, Moscow/Leningrad (U-5511,  
12 Feb 1954).

ACCESSION NR: AP4041335

S/0119/64/000/006/0001/0003

AUTHOR: Yerkovich, G. Ye.; Studennikov, Yu. A.

TITLE: Using an electronic potentiometer for narrow-range program control

SOURCE: Priberostroyeniye, no. 6, 1964, 1-3

TOPIC TAGS: potentiometer, electronic potentiometer, automatic control, program automatic control

ABSTRACT: An experience with remodeling a standard electronic potentiometer (PSR1-01) for a narrow range (measuring temperature within 1,250—1,450C) is reported. Two versions of remodeling — the addition of a resistor and altering the values of three existent resistors — are considered and found to have no effect on the potentiometer sensitivity. The instrument error, as a result of the remodeling, increases from  $\pm 0.5\%$  to  $\pm 3\%$ . The dead zone is 1—2C. The modeled potentiometer was used in the program control of temperature of a

**ACCESSION NR: AP4041335**

laboratory furnace used for physico-chemical investigations; the program was set to lower the furnace temperature at a rate of 1/2 to 1/12 degree C/minute.

Orig. art. has: 3 figures and 6 formulas.

**ASSOCIATION: none**

**SUBMITTED: 00**

**ENCL: 00**

**SUB CODE: EC, DP**

**NO REF SOV: 006**

**OTHER: 000**

Card 2/2

~~34005-65~~ ~~ENT(1)/ENT(m)/EFF(a)-2/EPR/EWA(d)/ENP(t)/ENP(k)/ENP(b)/EWA(h)/EWA(c)~~

**TITLE:** A compensating device for the VR5/20 thermocouple 21

**SOURCE:** Zavodskaya laboratoriya, v. 31, no. 3, 1965, 390-391

**ABSTRACT:** The W-Re-W-Re VR 5/20 thermocouple is widely used for

L 34005-65

ACCESSION NR: AP500768L

placed in a water bath; the cold junction was thermostatically controlled.

From the data obtained, the author has calculated the rate of change of the temperature of the cold junction with respect to the temperature of the hot junction.

References:

1. J. H. Van Veen, "The Cold Junction Effect in Thermocouples," *Physica*, vol. 1, p. 1, 1934.

2. J. H. Van Veen, "The Cold Junction Effect in Thermocouples," *Physica*, vol. 1, p. 1, 1934.

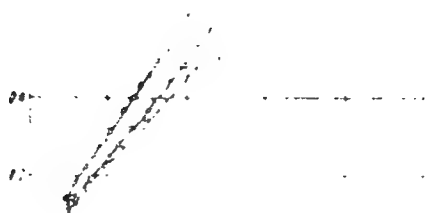


FIG. 1. Schematic diagram of the experimental setup for the measurement of the time delay of the signal.

Card 3/3

ACCESSION NR: AP4042979

S/0051/64/017/001/0030/0034

AUTHORS: Yerkovich, S. P.; Pisarevskiy, Yu. V.; Ageshin, F. S.

TITLE: Concerning a procedure for determining oscillator strengths for electronic transitions in molecules

SOURCE: Optika i spektroskopiya, v. 17, no. 1, 1964, 30-34

TOPIC TAGS: oscillator strength, level transition, molecular spectrum, level transition, diatomic molecule

ABSTRACT: It is pointed out that the method proposed by the authors (Opt. i spektr. v. 6, 297, 1959; v. 8, 303, 1960; v. 9, 269, 1960) for determining the electron-transition probabilities in diatomic molecules from the absorption coefficients obtained with a spectrograph having a transmission-band integral that encompasses many rotational lines involves certain difficulties connected with an exact account of the intensity distribution in the rotational struc-

1/2



ACCESSION NR: AP4042979

ture of the band. To this end, the  $\delta(0,0)$  band of the NO molecule is used as an example to demonstrate that the Honl and London factors (H. Honl and F. London, Zs. Phys. v. 33, 803, 1925), calculated by the method of E. Hill and J. H. Van Vleck (Phys. Rev. v. 32, 250, 1928), yield intensity distributions in the band that are in good agreement with experiment. This makes it possible to use the intensity formulas obtained with the aid of the wave functions for a symmetrical top, which in the case of the NO molecule agree with the experimental values. The calculated intensity factors are compared with experiment by using the data of F. F. Marmo (J. Opt. Soc. Amer. v. 43, 1186, 1953) and found to be in good agreement. Orig. art. has: 21 formulas and 1 figure.

ASSOCIATION: None

SUBMITTED: 09Oct63

SUB CODE: OP

NR REF SOV: 003

ENCL: 00

OTHER: 008

2/2

YERKOVICH, S.P.

Coefficient of continuous radiation absorption by the diatomic  
molecules of hydrogen. Trudy MTIPP 15:176-182 '60.

(MIRA 16:2)

(Heat--Radiation and absorption)

(Hydrogen)

YERKOVICH, S.P.

Determining proton concentration in the atmosphere of hydrogen  
stars. Trudy MTIPP 15:217-225 '60. (MIRA 16:2)  
(Protons) (Stars--Atmospheres)

SOV/51-6-3-4/28

AUTHOR: Yerkovich, S.P.

TITLE: The Oscillator Strength of the  $\gamma$ -System of NO Bands  
(O sila ostsillyatora dlya  $\gamma$ -sistemy polos NO)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 297-303,  
(USSR)

ABSTRACT: The author used the experimental data of Marmo (Ref.2) and Mayence (Ref.4) to find the oscillator strength  $f$  for the  $\gamma$ -system ( $X^2\Pi - A^2\Sigma$  transitions) of nitrogen oxide (NO) bands. Marmo's data yielded a mean value  $f = 0.043$  (Table 1) in the region of long-wavelength maxima of the  $\gamma(1,0)$  and  $\gamma(2,0)$  bands. Mayence's data, which the author regards as less reliable, gave  $f = 0.032-0.036$  (Table 2) for the long-wavelength maximum of the  $\gamma(1,0)$  band. The less exact measurements in the region of the short-wavelength maximum of the  $\gamma(1,0)$  band reported by Marmot and Mayence led to  $f = 0.037-0.056$  (Table 3). The author regards  $f = 0.043$  Card 1/2 as the best value. He shows that the value  $f = 0.0025$